

Indian Geography and Society: Babur's Scientific Observations in the Baburnama

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Abstract:

This paper explores the detailed observations of Zahiruddin Mohammad Babur, the founder of the Mughal Empire, as he documented the physical landscape of India in his memoirs, the *Baburnama*. Written in Chagatai Turkic during the early 16th century, Babur's account provides a unique perspective on India's geography, emphasizing its vast plains, rivers, mountains, and climate as encountered during his conquests. The paper examines how Babur, a Central Asian prince with a keen eye for natural history, described the unfamiliar terrain of Hindustan, contrasting it with his homeland while noting its scale, fertility, and seasonal rhythms, such as the monsoon. Through his vivid prose, Babur catalogs the physical features, ranging from the Indo-Gangetic plains to the Himalayan foothills, alongside practical insights into their strategic and agricultural significance. This study highlights the *Baburnama* as both a historical and geographical text, revealing Babur's role as a conqueror and an astute observer of the Indian subcontinent's diverse topography. Babur also notes the diversity of people, languages, and customs, expressing both fascination and occasional disdain. He highlights the caste system, observing the rigid social hierarchy that governed interactions, particularly among Hindus, who formed the majority of the population. Babur remarks on the prevalence of idol worship, temples, and religious practices, which he found alien to his Islamic worldview, often critiquing them as superstitious.

Introduction:

The *Baburnama*, the memoirs of Zahiruddin Muhammad Babur, the founder of the Mughal Empire, stands as one of the most remarkable historical and literary works of the early 16th century. Written in Chagatai Turkish, this candid autobiography not only chronicles Babur's military conquests and political struggles but also offers a vivid portrayal of the

lands he encountered, particularly the Indian subcontinent. Among its many dimensions, the *Baburnama* serves as a valuable geographical text, providing detailed observations of India's physical landscape—its rivers, mountains, plains, flora, and fauna—as seen through the eyes of a Central Asian conqueror accustomed to a starkly different environment. Babur's descriptions, shaped by both curiosity and pragmatism, reveal not only his keen observational skills but also his complex relationship with India: a land he sought to dominate yet found alien and, at times, overwhelming. This paper explores Babur's depiction of India's physical geography in the *Baburnama*, analyzing how his accounts reflect both the practical challenges of conquest and his personal impressions of a terrain that contrasted sharply with his homeland. By examining these descriptions, we gain insight into how geography influenced Babur's military strategies, shaped his perceptions of India, and underscored the broader narrative of adaptation and dominion in his imperial ambitions.

Babur says in his memoir that Hindustan is of the first climate, the second climate, and the third climate; of the fourth climate it has none. It is a wonderful country. Compared with our countries it is a different world; its mountains, rivers, jungles and deserts, its towns, its cultivated lands, its animals and plants, its peoples and their tongues, its rains, and its winds, are all different. Once the water of Sind is crossed, everything is in the Hindustan such as land, water, tree, rock, people and horde, opinion and custom, etc.¹

This paper also explores the portrayal of Indian society mentioned by Babur in his memoir *Baburnama*. This paper is examining that how Babur perceived and interpreted the cultural, social, and economic landscape of early 16th-century India. It analyzes his observations on the caste system, religious diversity, agrarian economy, and urban centers, as well as his critiques and occasional admiration for the people he ruled. By situating Babur's commentary within the historical context of his conquests and his own cultural background, this study seeks to illuminate the interplay between an invader's gaze and the realities of a vibrant, heterogeneous society. In doing so, it underscores the *Baburnama*'s significance as both a historical and literary source, bridging the gap between personal narrative and socio-cultural documentation.

Northern Mountains:

Upon entering India, Babur's descriptions of mountains shift to the northern regions, particularly the Himalayas and their foothills, which he encountered during his conquests. While he does not explore the highest Himalayan peaks, he refers to the ranges visible from the plains of northern India, especially around Punjab and the areas near the Indus River. He describes these mountains as imposing and distant, often noting their snow-capped

summits contrasting with the heat of the Indian plains. For example, in his account of the region around Sialkot and Lahore, he mentions the northern hills as a backdrop, observing their role in shaping local geography and water systems.

Himalayas (Kashmir Mountain): He mentions that after crossing the Sind-river (eastwards), there are countries, in the northern mountains, appertaining to Kashmir. Beyond Kashmir (*mir* signifying a hill, and *kash* being the name of the natives of the hill-country) there are countless peoples and hordes, *Parganas* and cultivated lands, in the mountains. As far as Bengal, as far indeed as the shore of the great ocean, the peoples are without break. About this procession of men no one has been able to give authentic information in reply to our enquiries and investigations. So far people have been saying that they call these hill-men (*Kas*). The Kashmiri hill men or its people trade in musk-bags, yak, saffron, lead and copper.²

Siwalik and Hindu-kush Mountains: Babur also discusses the Siwalik Hills, the lower range of the Himalayas, which he encountered during his campaigns. He describes them as forested and rugged, rich with wildlife and timber, but less daunting than the Hindu Kush. He notes their practical utility, such as providing resources and serving as defensive positions, though he expresses less personal fondness for them compared to the mountains of Kabul.

Babur says that the Hindustanis or Hindus call the Siwalik mountains as Sawalak-parbat. In the Hindi tongue *sawai-lakh* means one lakh and a quarter, that is, 125,000, and *parbat* means a hill, which makes 125,000 hills. The snow on these mountains never lessens; it is seen white from many districts of Hind, as, for example, Lahor, Sihrind and Sambhal.³ Babur mentions another mountain Hindu-kush that this range, which in Kabul is known as Hindu-kush, comes from Kabul eastwards into Hindustan, with slight inclination to the south. The Hindustanat (countries of Hindustan) are to the south of it. Tibet lies to the north of it and of that unknown horde called *Kas*.⁴

Aravali Mountains: In the *Baburnama*, Babur provides some observations about the Aravali Mountains, though his references are not extensive or overly detailed, as his primary focus often lay on military campaigns, cities, and fertile plains rather than exhaustive geographical surveys. The Aravali Range, one of the oldest mountain ranges in India, stretches across parts of present-day Rajasthan, Haryana, and Gujarat, and Babur encountered it during his conquests in northern India, particularly in the context of his movements around Delhi, Agra, and the Rajput territories.

Babur mentions the Aravali Mountains (sometimes indirectly through descriptions of the terrain) as part of the rugged and uneven landscape he navigated while campaigning against

the Rajput confederacy led by Rana Sanga. In his account of the Battle of Khanwa (1527), he describes the region around Bayana and Mewat, areas close to the Aravalis, noting the hilly and rocky terrain that influenced military strategies. He portrays the mountains as a natural barrier, complicating troop movements and providing defensive advantages to local rulers. For instance, he observes how the hills harbored forts and strongholds, such as those in Alwar and Ranthambore, which were strategically perched to control the surrounding plains. Babur's descriptions also touch on the Aravalis' physical characteristics. He notes their arid and barren nature compared to the lush valleys of Central Asia, like Ferghana, which he frequently longed for. The *Baburnama* reflects his general displeasure with India's climate and topography, and the Aravalis, with their dry, scrub-covered slopes, likely contributed to this sentiment. He contrasts the starkness of these hills with the productivity of the plains watered by rivers like the Yamuna and Ganges, suggesting that the mountains were less hospitable and less economically valuable in his view.

Additionally, Babur's practical interest in the Aravalis emerges in his comments on resources and routes. He mentions the presence of forests and wildlife in the hilly regions, though not in great detail, and hints at the stone quarries that supplied materials for local fortifications. His descriptions imply that the Aravalis served as a dividing line between the fertile Gangetic plains and the arid interior of Rajasthan, shaping both the ecology and the political geography of the region. Overall, Babur's references to the Aravali Mountains in the *Baburnama* are utilitarian and succinct, reflecting his perspective as a military commander assessing terrain for conquest rather than a geographer cataloging features. His remarks underscore the range's strategic significance and rugged character, while also revealing his broader ambivalence toward India's natural environment compared to his homeland.

Babur describes another Hindustani range Aravali Mountain which runs north and south. It begins in the Delhi country at a small rocky hill on which is Firuz Shah's residence, called Jahan-nama and, going on from there, appears near Delhi in detached, very low, scattered here and there, rocky little hills. Beyond Mewat, it enters the Bayana country. The hills of Sikri, Bari and Dhaulpur are also part of this same including (*tuta*) range. The hills of Gualiar, they write it Galiur, although they do not connect with it, are off-sets of this range; so are the hills of Ranthambhor, Chittaur, Chanderi, and Mandau. They are cut off from it in some places by 7 to 8 *kurohs* (14 to 16 m.). These hills are very low, rough, rocky and jungly. No snow whatever falls on them. They are the makers, in Hindustan, of several rivers.⁵

Rivers:

In the *Baburnama*, Babur provides vivid and detailed observations about the rivers of India, reflecting both his keen interest in the natural world and his strategic perspective as a conqueror assessing the land's resources and challenges. Babur's descriptions of Indian rivers emphasize their scale and seasonal variability, shaped by the monsoon climate, an unfamiliar phenomenon for him. He frequently remarks on the rivers' flooding during the rainy season, which he found both impressive and inconvenient, as it disrupted travel and military operations. He also highlights the rivers' economic and ecological roles. Babur praises the fertility of the riverine plains, crediting the Ganges and Yamuna for the abundance of crops.

Babur says that many rivers rise in these mountains and flow through Hindustan. Six rise north of Sihrind, namely **Sind**, **Jhelm**, **Chenab**, **Ravi**, **Bias** and **Satlaj**; all meet near Multan, flow westwards under the name of Sind, pass through the Thatta country and fall into the Uman (sea).⁶

Babur mentions that besides these six there are others, such as **Jumna**, **Ganges**, **Rapti**, **Gomati**, **Ghaggar**, **Saryu**, **Gandak** and many more; all unite with the Gang-darya, flow east under its name, pass through the Bengal country, and are poured into the great ocean. They all rise in the Sawalik-parbat. Babur further says that many rivers rise in the Hindustan hills, as, for instance, **Chambal**, **Banas**, **Betwa**, and **Son**. There is no snow whatever on these mountains. Their waters also join the Gang-darya.⁷

Babur's descriptions of Indian rivers in the *Baburnama* reveal his dual role as an observer and a ruler. He catalogs their physical traits, size, flow, and seasonal shifts, while assessing their strategic and economic value, all filtered through a comparative lens that underscores his identity as an outsider adapting to a new land. His accounts remain a valuable historical source, offering insights into both the geography of 16th-century India and the mind of its first Mughal emperor.

Irrigation:

Babur notes that India's irrigation systems were heavily dependent on its rivers and the monsoon rains, a stark contrast to the arid regions of his homeland. He describes the country as blessed with numerous rivers—like the Ganges, Yamuna, and Indus—whose waters supported agriculture on a vast scale. However, he observes that the reliance on seasonal rainfall and river flooding made irrigation less systematic and more unpredictable than the controlled methods he was accustomed to. He expresses a mix of fascination and

mild frustration at this dependence, as it differed from the precision of Central Asian techniques.

Running Water: In India the rivers and running waters and even standing waters are the main source of irrigation and more helpful in cultivation. Unfortunately, there are many places and towns in India which have no source of water except ground water and rains. Babur says that rivers and, in some places, standing-waters are its “running-waters”. Even where, as for some towns, it is practicable to convey water by digging channels, this is not done. For not doing it there may be several reasons, one being that water is not at all a necessity in cultivating crops and orchards. To young trees water is made to flow by means of buckets or a wheel. They are given water constantly during two or three years; after which they need no more. Some vegetables are watered constantly.⁸

Babur says that in Lahore, Dipalpur and those parts, people use water by means of a wheel. They make two circles of ropes long enough to suit the depth of the well, fix strips of wood between them, and on these fasten pitchers. The ropes with the wood and attached pitchers are put over the well-wheel. At one end of the wheel-axle a second wheel is fixed, and close to it another on an upright axle. This last wheel the bullock turns; its teeth catch in the teeth of the second, and thus the wheel with the pitchers is turned. A trough is set where the water empties from the pitchers and from this the water is conveyed everywhere.⁹

Babur describes that in Agra, Chandwar, Bayana and those parts, again, people water with a bucket; this is a laborious and filthy way. At the well-edge they set up a fork of wood, having a roller adjusted between the forks, tie a rope to a large bucket, put the rope over the roller, and tie its other end to the bullock. One person must drive the bullock, another empty the bucket. Every time the bullock turns after having drawn the bucket out of the well, that rope lies on the bullock-track, in pollution of urine and dung, before it descends again into the well. To some crops needing water, men and women carry it by repeated efforts in pitchers.¹⁰

Rains and Winds: In India the rainy season is of the four months or one third of the whole year, naturally, rains always plays the role in irrigation. Babur appreciates the rains in India and says that its air in the Rains is very fine. Sometimes it rains 10, 15 or 20 times a day; torrents pour down all at once and rivers flow where no water had been. Autumn crops grow by the downpour of the rains themselves; and strange it is that spring crops grow even when no rain falls. While it rains and through the rains, the air is remarkably fine, not to be surpassed for healthiness and charm. The fault is that the air becomes very soft and damp. A bow of those (Transoxanian) countries after going through the rains in Hindustan, may not lie drawn even; it is ruined; not only the bow, everything is affected, armour, book, cloth, and utensils all; a house even does not last long.¹¹

Like the rains the winds of India are very important for cultivation as the winds ripens the crop very fast. Babur also mentions that not only in the rains but also in the cold and the hot seasons, the airs are excellent; at these times, however, the north-west wind constantly gets up laden with dust and earth. It gets up in great strength every year in the heats, under the Bull and Twins when the Rains are near; so strong and carrying so much dust and earth that there is no seeing one another. People call this wind Darkener of the Sky (*Andhi*). The weather is hot under the Bull and Twins, but not intolerably so, not so hot as in Balkh and Qandahar and not for half so long.¹²

Babur's descriptions of Indian irrigation in the *Baburnama* are not exhaustive, as his focus often shifts to military campaigns or personal reflections. However, they offer a glimpse into the state of water management in early 16th-century northern India, likely reflecting practices under the Lodi dynasty he overthrew.

Plain Land:

Babur is struck by the immense fertility of the Indian plains, which he attributes to the rich alluvial soil deposited by rivers like the Ganges, Yamuna, and Indus. He describes these flatlands as extraordinarily productive, capable of supporting abundant crops such as wheat, rice, millet, sugarcane, and pulses. He notes the dense agricultural activity, with fields stretching across the horizon, and acknowledges that this bounty sustains a large population and a thriving economy. For instance, he marvels at the prosperity of the Punjab plains and the Gangetic basin, where the land's natural wealth impressed even a conqueror accustomed to more arid regions.

Babur describes the plains of India and says that most of its population is residing in these areas. The towns and country of Hindustan are greatly wanting in charm. Its towns and lands are all of one sort; there are no walls to the orchards, and most places are on the dead level plain. Under the monsoon-rains the banks of some of its rivers and torrents are worn into deep channels, difficult and troublesome to pass through anywhere. In many parts of the plains thorny jungle grows, behind the good defence of which the people of the *Pargana* become stubbornly rebellious and pay no taxes. Except for the rivers and here and there standing-waters, there is little "running-water". So much so is this that towns and countries subsist on the water of wells or on such as collects in tanks during the rains.¹³

In Hindustan hamlets and villages, towns indeed, are depopulated and set up in a moment! If the people of a large town, one inhabited for years even, flee from it, they do it in such a way that not a sign or trace of them remains in a day or a day and a half.¹⁴ On the other hand, if they fix their eyes on a place in which to settle, they need not dig water-courses or construct dams because their crops are all rain-grown, and as the population of Hindustan

is unlimited, it swarms in. They make a tank or dig a well; they need not build houses or set up walls- *Khas* grass abounds, wood is unlimited, huts are made, and straightway there is a village or a town!¹⁵ Except the large rivers and standing waters in India which flow in ravines or hollows (there are no waters). There are no running-waters in their gardens or residences.

In the *Baburnama*, Babur portrays the Indian plains as a land of paradoxes: immensely fertile and economically vital, yet climatically harsh and visually dull to his sensibilities. He respects their capacity to sustain life and empire but remains critical of their unrelenting flatness, oppressive weather, and what he perceives as a lack of natural or human sophistication. His account reflects both the practical eye of a conqueror assessing resources and the personal lens of a man longing for the familiar beauty of Central Asia. Ultimately, the plains represent both the foundation of his Mughal dominion and a landscape he sought to reshape according to his own ideals.

Indian Social Life:

Babur documented his observations of Indian social life in his memoir, which provides a detailed and candid account of his experiences and impressions after he arrived in India in the early 16th century, particularly following his victory at the Battle of Panipat in 1526. His descriptions of Indian social life reflect both his curiosity and his biases as a Central Asian conqueror accustomed to a different cultural and social environment. Babur noted the diversity and complexity of Indian society, which he found both fascinating and perplexing.

Babur found Indian social customs unfamiliar and, at times, unappealing. He criticized the lack of what he considered proper social etiquette, such as formalized greetings or structured gatherings. He was accustomed to the convivial assemblies of Central Asia, where poetry, wine, and intellectual discourse were central, and he found no equivalent in India. He described India as a land of immense wealth and variety but also one that lacked the refinement and order he valued in his homeland of Ferghana.

In terms of social life, he commented on the customs, habits, and daily interactions of the people he encountered. Babur linked social life to the environment, blaming the hot and humid climate of India for what he saw as the lethargy or lack of vigor in its people. He wrote extensively about his discomfort with the weather, which he believed influenced the character and habits of the inhabitants.

Diversity of People and Customs: Babur observed that India was inhabited by a vast array of communities, each with distinct languages, religions, and traditions. He remarked on the

presence of Hindus, Muslims, and other groups, noting the stark differences in their ways of life. He wrote that Hindustan is a country of few charms. This reflects his initial disdain for what he perceived as a lack of sophistication compared to the Persianate culture he admired.

He commented on the diet and lifestyle of Indians, often unfavorably. Babur missed the fruits of Central Asia, like melons and grapes, and found Indian cuisine lacking in flavor and variety by his standards. Its people have no good looks; of social intercourse, paying and receiving visits there is none; of genius and capacity none; of manners none; in handicraft and work there is no form or symmetry, method or quality; there are no good horses, no good dogs, no grapes, musk-melons or first-rate fruits, no ice or cold water, no good bread or cooked food in the bazars, no Hot-baths, no Colleges, no candles, torches or candlesticks.¹⁶

Lamp-men: Babur says about the Indian lamp and torch system that in place of candle and torch they have a great dirty gang they call lamp-men (*Diwati*), who in the left hand hold a smallish wooden tripod to one corner of which a thing like the top of a candlestick is fixed, having a wick in it about as thick as the thumb. In the right hand they hold a gourd, through a narrow slit made in which, oil is let trickle in a thin thread when the wick needs it. Great people keep a hundred or two of these lamp-men. This is the Hindustan substitute for lamps and candlesticks! If their rulers and begs have work at night needing candles, these dirty lamp-men bring these lamps, go close up and there stand.¹⁷

Dresses: Babur also remarked on the stark division between the wealthy and the poor, observing the opulence of the ruling classes contrasted with the simplicity of the common people's lives. Babur says that the peasants and people of low standing go about naked. They tie on a thing called *Languta*, a decency-clout which hangs two spans below the navel. From the tie of this pendant decency-clout, another clout is passed between the thighs and made fast behind. Women also tie on a cloth (*lung*), one-half of which goes round the waist, the other is thrown over the head.¹⁸

Religious Practices: As a Muslim ruler, Babur took note of the predominantly Hindu population's religious practices, which he found strange and elaborate. He described the rituals, temples, and festivals with a mix of detachment and mild disapproval, shaped by his own Islamic worldview. However, he did not dwell extensively on these aspects, focusing more on governance and military matters. Babur says in his memoir that most of the inhabitants of Hindustan are pagans; they call a pagan a Hindu. Most Hindus believe in the transmigration of souls.¹⁹

Workmanship: Babur says that the pleasant things of Hindustan are that it is a large country and has masses of gold and silver. Babur described the industriousness of the Indian populace, particularly the artisans and laborers. He was impressed by the variety of crafts and trades, mentioning goldsmiths, weavers, and other skilled workers. All artisans, wage-earners, and officials are Hindus. In our countries dwellers in the wilds (Nomads) get tribal names; here the settled people of the cultivated lands and villages get tribal names. Every artisan there follows the trade that has come down to him from forefather to forefather.

Babur says that another good thing in Hindustan is that it has unnumbered and endless workmen of every kind. There is a fixed caste for every sort of work and for everything, which has done that work or that thing from father to son till now. Mulla Sharaf, writing in the Zafar-nama about the building of Timur Beg's Stone Mosque, lays stress on the fact that on it 200 stone-cutters worked, from Azarbajian, Fars, Hindustan and other countries. But 680 men worked daily on my buildings in Agra and of Agra stone-cutters only; while 1491 stone-cutters worked daily on my buildings in Agra, Sikri, Biana, Daulpur, Gualiar and Koil. In the same way there are numberless artisans and workmen of every sort in Hindustan.²⁰

Despite his critical tone, Babur's accounts reveal a keen observer trying to make sense of a vastly different world. His descriptions of Indian physical geography and social life are colored by his personal scientific tastes and cultural background, often comparing India unfavorably to the lands of his youth. Over time, however, he adapted to his new domain, and his successors would embrace and blend Indian traditions with their own.

References:

1. Babur, Zahiruddin Mohammad. *Baburnama, (Memoirs of Babur,* Eng. Trans. Annette Susannah Beveridge, Delhi, 2010, First Published in 1921), p. 484.
2. *Ibid.*
3. *Ibid.*, p. 485.
4. *Ibid.*
5. *Ibid.*, pp. 485-86.
6. *Ibid.*, p. 485.
7. *Ibid.*
8. *Ibid.*, p. 486.
9. *Ibid.*
10. *Ibid.*, p. 487.

11. *Ibid.*, p. 519.
12. *Ibid.*, p. 520.
13. *Ibid.*, p. 487.
14. On the approach of an hostile army, the unfortunate inhabitants of India bury underground their most cumbrous effects, and each individual, man, woman, and child above six years of age (the infant children being carried by their mothers), with a load of grain proportioned to their strength, issue from their beloved homes, and take the direction of a country (if such can be found,) exempt from the miseries of war; sometimes of a strong fortress, but more generally of the most unfrequented hills and woods, where they prolong a miserable existence until the departure of the enemy, and if this should be protracted beyond the time for which they have provided food, a large portion necessarily dies of hunger. (Erskin, p. 315)
15. *Ibid.*, pp. 487-88.
16. *Ibid.*, p. 518.
17. *Ibid.*, pp. 518-19.
18. *Ibid.*, p. 519.
19. *Ibid.*, pp. 518-19.
20. *Ibid.*, p. 520.